

Remarks

Applicants respectfully request reconsideration of the present application in view of the following remarks. No claims have been amended, cancelled or added. Therefore, claims 1, 3-9, 14 and 16-20 remain pending in the present application.

Claims 1, 3, 14 and 16-19 have once again been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2005/0064266 to Abdou et al. ("the Abdou reference") has been maintained. Applicants respectfully traverse this rejection.

Independent claim 1 is directed to a method for forming a fuel cell assembly. The method comprises the steps of: a) forming a fuel cell sub-assembly module containing at least two bonded together fuel cell units, the at least two fuel cell units each including an anode, a cathode, and a membrane electrode assembly; b) testing the sub-assembly module; and c) joining together a plurality of sub-assembly modules to form the fuel cell assembly.

The fuel cell stack disclosed in the Abdou reference is formed by a method that highlights the deficiencies that the present invention intends to address. See, e.g., *Specification*, pg. 2, lines 14-27. In particular, the Abdou reference discloses a fuel cell unit (20) (i.e., a fuel cell cartridge) including an anode (22), a cathode (24), and a membrane electrode assembly (26). See *Final Office Action mailed May 29, 2008 ("Final Office Action")*, pg. 2; *Abdou*, ¶¶ [0046], [0057-0058]. The Abdou reference further states that each individual fuel cell unit (20) is then tested. See *Final Office Action*, pg. 3; *Abdou*, ¶¶ [0066]. Specifically, the Abdou reference states that "[t]he manufactured fuel cell cartridges 20 may first be tested as a quality control

station along the production line." *Abdou*, ¶ [0066] (emphasis added). "At this station, a number of test methods and tools may be used to test the quality of the individual fuel cell cartridges." *Id.* (emphasis added). After the individual fuel cell units (20) are tested, the Abdou reference states that the individual fuel cell units (20) are then stacked on top of one another to form the full-assembled fuel cell stack (50). See *Abdou*, ¶¶ [0072-0073] (stating that the fully assembled stack (50) includes 40 fuel cell units). The Abdou reference indicates that the fully assembled fuel cell stack (50) is then tested. See *id.*

The Abdou reference does not teach or suggest a method for forming a fuel cell assembly including the steps of forming a fuel cell sub-assembly module containing at least two bonded together fuel cell units and joining together a plurality of sub-assembly modules to form the fuel cell assembly as recited in claim 1. As mentioned above, the Abdou reference discloses a fuel cell unit (20) (i.e., a fuel cell cartridge) including an anode (22), a cathode (24), and a membrane electrode assembly (26). See *Abdou*, ¶¶ [0046], [0057-0058]. In the Final Office Action, the Examiner cited paragraph [0073] to support the position that the Abdou reference teaches the formation of a sub-assembly module, as set forth in claim 1. See *Final Office Action*, pgs. 6-7. Paragraph [0073] of the Abdou reference does not disclose that the individual fuel cell units (20) are formed into fuel cell sub-assembly modules, which are then joined together to form the fuel cell assembly (50). Instead, a plurality of individual fuel cell units (20) (e.g., 40 individual fuel cell units) are merely stacked on top of one another to form the fully assembled fuel cell assembly (50). See *id.* at ¶¶ [0072-0073]. The only mention of a sub-assembly in paragraph [0073]

is in reference to the endplate bus bar subassembly, which is not disclosed as being at least two fuel cell units (20) bonded together. Not only does paragraph [0073] of the Abdou reference fail to disclose that the fuel cell units (20) are formed into a fuel cell sub-assembly module prior to forming the fuel cell assembly (50), the Abdou reference fails to disclose that a plurality of fuel cell sub-assembly modules are joined to form the fuel cell assembly, as set forth in claim 1.

Moreover, the Abdou reference does not teach or suggest a method for forming a fuel cell assembly including the step of testing the fuel cell sub-assembly module prior to joining together a plurality of sub-assembly modules to form the fuel cell assembly as recited in claim 1. While the Abdou reference states that the individual fuel cell units (20) are tested (*Abdou*, ¶ [0066]), and the fully assembled fuel cell stack (50) is tested (*Abdou*, ¶ [0073]), nothing in the Abdou reference discloses that the individual fuel cell units (20) are ever formed into sub-assembly modules that are tested prior to being assembled into the fully assembled fuel cell stack (50). Therefore, if any leaks are detected in the fully assembled fuel cell stack (50) in the Abdou reference, the fuel cell stack (50) will have to be disassembled to the point of the leak to fix the leak. See *Specification*, pg. 2, lines 22-27. In claim 1, the leaks that are detected during the testing step can be dealt with at the sub-assembly module level, thereby limiting the potential rework of the entire fuel cell assembly. See *id.* At pg. 3, lines 8-13.

For at least the reasons set forth above, Applicants maintain that the Abdou reference fails to teach or suggest all of the limitations included in claim 1. As such, Applicants submit that a *prima facie* case of anticipation has not been established

and request that the rejection of claim 1 be withdrawn. As claims 3, 18 and 19 depend from claim 1, Applicants request that the rejection of these claims be withdrawn for at least the same reason that was set forth with respect to claim 1.

Independent claim 14 is directed to a fuel cell assembly comprising a plurality of fuel cells bonded together to form a plurality of fuel cell sub-assembly modules. The plurality of fuel cell sub-assembly modules are bonded together to form the fuel cell assembly, wherein at least one of the fuel cells includes a bipolar plate assembly and a membrane electrode assembly.

As set forth above with respect to claim 1, Applicants submit that the Abdou reference does not teach or suggest a fuel cell assembly including a plurality of fuel cells bonded together to form a plurality of fuel cell sub-assembly modules as recited in claim 14. The Abdou reference discloses that a plurality of individual fuel cell units (20) are coupled to one another to form a fuel cell stack (50). See *Abdou*, ¶ [0073]. The Examiner has not provided any evidence to establish that the fuel cell units (20) in the Abdou reference are bonded together to form fuel cell sub-assembly modules prior to assembling the fuel cell stack (50). For this reason, Applicants submit that the Abdou reference does not teach or suggest all of the limitations included in claim 14 and request that the rejection of claim 14 be withdrawn. As claims 16 and 17 depend from claim 14, Applicants request that the rejection of claims 16 and 17 be withdrawn for at least the same reason that was set forth with respect to claim 14.

Claims 4-9 and 20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the Abdou reference in view of U.S. Patent Publication No.

2004/0053100 to Stanley et al. ("the Stanley reference"), U.S. Patent Publication No. 2005/0091838 to Frank et al. ("the Frank reference"), or U.S. Patent No. 6,761,991 to Frisch et al. ("the Frisch reference"). Applicants respectfully traverse this rejection.

As stated above with respect to claim 1, the Abdou reference does not teach or suggest a method for forming a fuel cell assembly including the steps of forming a fuel cell sub-assembly module containing at least two bonded together fuel cell units, testing the fuel cell sub-assembly module, and joining together a plurality of sub-assembly modules to form the fuel cell assembly. The Stanley, Frank and Frisch references were used by the Examiner for the purpose of disclosing either a gasketing element or a elastomeric gasket. However, these references do not teach or suggest the limitations that were lacking in the Abdou reference. Applicants therefore submit that the combination of cited references do not teach or suggest all of the limitations included in claim 1. As claims 4-9 and 20 depend either directly or indirectly from claim 1, these claims are not taught or suggested by the above references for at least the same reasons that were set forth with respect to claim 1. It is requested that the rejection of claims 4-9 and 20 be withdrawn.

Conclusion

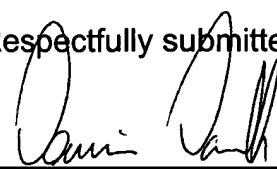
In light of the foregoing, Applicants submit that claims 1, 3-9, 14 and 16-20 are in condition for allowance and such allowance is respectfully requested. Should the Examiner feel that any unresolved issues remain in this case, the undersigned

may be contacted at the telephone number listed below to arrange for an issue resolving conference.

Applicants do not believe that any fee is due at this time. However, the Commissioner is hereby authorized to charge any fee that may have been overlooked to Deposit Account No. 10-0223.

Dated: 7/29/2008

Respectfully submitted,



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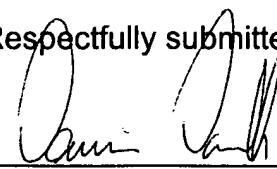
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